Amendments to the Claims:

Claim 1 (Currently amended): An adaptive method for predistorting ~~a~~ an RF modulated signal, to be transmitted, supplied by a signal source to an input of a power amplifier having an output for delivering an amplified output signal, said method comprising the steps of:

predistorting the RF modulated signal to be transmitted using an I/Q modulator ~~by means of predistortion amplitude and phase look-up tables~~ interposed between the signal source and the input of the power amplifier, and controlled by means of amplitude and phase look-up tables stored in a distorting generator;

producing, via a first digital receiver, a first feedback signal in response to the RF predistorted signal;

producing, via a second digital receiver, a second feedback signal in response to the RF amplified output signal from the power amplifier;

modeling the power amplifier in response to the first and second feedback signals; and

updating the predistortion amplitude and phase look-up ~~table~~ tables ~~means~~ in response to said modeling of the power amplifier.

Claim 2 (Currently amended): An ~~adaptative~~ adaptive method as recited in claim 1, wherein said first feedback signal includes the complex envelope of the ~~predistorting~~ RF predistorted signal.

Claim 3 (Currently amended): An ~~adaptative~~ adaptive method as recited in claim 2, wherein said second feedback signal includes the complex envelope of the RF amplified output signal.

Claim 4 (Currently amended): An ~~adaptative~~ adaptive method as recited in claim 3, wherein said modeling step includes the discrimination of the complex envelope of the first feedback signal referenced to the complex envelope of the second feedback signal to yield a predistortion function correlated to ~~the~~ a behaviour of the power amplifier including nonlinearities and memory effects.

Claim 5 (Currently amended): An ~~adaptative~~ adaptive method as recited in claim 4, wherein said modeling step is done in real time.

Claim 6 (Currently amended): An ~~adaptative~~ adaptive method as recited in claim 1, wherein said updating step is done when a linearity metric ~~an~~ adjacent channel power ratio (ACPR) measurement sub-step indicates that the predistorting step is not adequate to meet predetermined ACPR standards.

Claim 7 (Currently amended): An ~~adaptative~~ adaptive method as recited in claim 6, wherein said linearity metric ACPR measurement sub-step is done via a digital receiver that includes a first channel tuned to ~~the~~ a mean frequency and a second channel

that is tuned to a predetermined offset frequency, said linearity metric ACPR measurement sub-step including ~~includes~~ comparing ~~the~~ an average power at the mean ~~means~~ frequency and at the predetermined offset frequency.

Claim 8 (Currently amended): An adaptive device for predistorting ~~a~~ an RF modulated signal to be transmitted, supplied by a signal source to an input of a power amplifier having an output for delivering an amplified output signal, said adaptive device comprising:

~~a complex gain adjuster~~ an I/Q modulator interposed between the signal source and the input of the power amplifier;

a distorting generator including predistortion amplitude and phase look-up ~~table~~ tables; said distorting generator ~~being so configured as to control~~ controlling said ~~complex gain adjuster~~ I/Q modulator to predistort the RF modulated signal to be transmitted in amplitude and in phase;

a first digital receiver producing a first feedback signal in response to the RF predistorted signal from said ~~complex gain adjuster~~ I/Q modulator;

a second digital receiver producing a second feedback signal in response to the RF amplified output signal from the power amplifier; and

a control module receiving said first and second feedback signals from said first and second digital receivers; said control module being so configured as to model the power amplifier in response to the first and second feedback signals and to update said

amplitude and phase look-up ~~table~~ tables of said ~~distortion~~ distorting generator in response to ~~said modeling~~ a dynamic modeling of the power amplifier.

Claim 9 (Currently amended): An ~~adaptative~~ adaptive device as recited in claim 8, wherein said look-up tables of said ~~dirtorting~~ distorting generator are indexed by an envelope detector that detects the envelope of the signal to be transmitted before predistortion.

Claim 10 (Currently amended): An ~~adaptative~~ adaptive device as recited in claim 9, wherein said envelope detector indexes the distorting generator via an analog to digital converter.

Claim 11 (Currently amended): An ~~adaptative~~ adaptive device as recited in claim 8, wherein said look-up tables of said ~~dirtorting~~ distorting generator are indexed by ~~the~~ data from a third digital receiver that down-converts the signal to be transmitted to baseband.

Claim 12 (Currently amended): An ~~adaptative~~ adaptive device as recited in claim 11, wherein the data from said third digital receiver is supplied to said control module that indexes said distorting generator accordingly.

Claim 13 (Currently amended): An ~~adaptative~~ adaptive device as recited in claim 8, wherein said control module is so configured as to update said amplitude and phase look-up tables when an adjacent channel power ratio (ACPR) measurement indicates that the predistortion made by said predistorting generator is not adequate to meet predetermined ACPR standards.

Claim 14 (Currently amended): An ~~adaptative~~ adaptive device as recited in claim 13, wherein said ACPR measurement is done via said second digital receiver that includes a first channel tuned to a mean frequency and a second channel that is tuned to a predetermined offset frequency, said ACPR measurement including comparing ~~the~~ an average power at the ~~means~~ mean frequency and at the predetermined offset frequency.

Claim 15 (Currently amended): An ~~adaptative~~ adaptive device as recited in claim 8, wherein said control module is ~~also so~~ further configured ~~as~~ to insert an adequate delay between the first feedback signal and the second feedback signal.

Claim 16 (Currently amended): A transmitter system for ~~amplifying and~~ up-converting and amplifying a baseband signal from a signal source; said transmitter system comprising:

a power amplifier having a signal input and an amplified signal output;

~~a~~ an I/Q modulator ~~complex gain adjuster~~ interposed between the baseband signal source and said signal input;

a distorting generator including predistortion amplitude and phase look-up ~~table~~ tables; said distorting generator ~~being so configured as to control said complex gain adjuster~~ controlling said I/Q modulator to predistort the baseband signal in amplitude and in phase;

an up-converter receiving ~~said~~ the predistorted baseband signal; said up-converter being so configured as to supply an up-converted predistorted signal to said signal input of said power amplifier;

~~a first digital receiver producing a first feedback signal in response to the predistorted baseband signal;~~

a ~~second~~ digital receiver producing a ~~second~~ feedback signal in response to the up-converted amplified output signal from said amplified signal output; and

a control module receiving a delayed reference signal from said I/Q modulator and the feedback signal from said digital receiver ~~said first and second feedback signals from said first and second digital receivers~~; said control module being so configured as to model the transmitter system ~~said power amplifier~~ in response to the reference and feedback signals ~~the first and second feedback signals~~ and to update said amplitude and phase look-up ~~table~~ tables of said distorting generator in response to a dynamic non linearity and memory effect modeling of the transmitter system ~~said modeling of said power amplifier~~.

Claim 17 (Currently amended): An adaptive device for predistorting a baseband digital signal to be transmitted, supplied by a signal source to an input of a

transmitter system ~~power amplifier~~ having an output for delivering an amplified output signal, comprising:

predistorter means comprising an I/Q modulator controlled by predistortion amplitude and phase look-up ~~table~~ tables means interposed between the signal source and the input of an up-converter ~~the power amplifier~~ for amplitude and phase predistorting the signal to be transmitted;

~~digital receiver means for producing a first feedback signal in response to the predistorted signal from the predistorter means;~~

digital receiver means for producing a ~~second~~ feedback signal in response to the amplified output signal from the transmitter system ~~power amplifier~~; and

means for modeling the transmitter system ~~power amplifier in response to the first and second feedback signals~~ in response to a reference signal and to the feedback signal and to update the amplitude and phase look-up tables in response to a dynamic non-linearity and memory effect modeling of the transmitter system.~~; and~~

~~means for updating the predistortion amplitude and phase look-up table means in response to said modeling of the power amplifier.~~